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ENCLOSURES (check all that apply)

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Appeal Brief

In re the Application of:

Gary Thomas AXBERG, Allen Robert HEITMAN, Gregory John KNIGHT, David Lynn
MERBACH, and William Roy YONKER
Serial No. 09/972,310
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STORAGE AREA NETWORK METHODS AND APPARATUS WITH EVENT
NOTIFICATION CONFLICT RESOLUTION

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I. Real Party in Interest

The entire right, title and interest in this patent application is assigned to real party in interest International Business Machines Corporation.

II. Related Appeals, Interferences, and Judicial Proceedings

There are no prior and pending appeals, judicial proceedings or interferences known to the appellant which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of the Claims

Claims 1-29 are pending and have been rejected.

The final rejection of the claims in the Final Office Action dated July 13, 2007 (“July 2007 FOA”) is being appealed for all pending claims 1-29.

IV. Status of Amendments

No amendments have been submitted following the July 2007 Final Office Action.

V. Summary of the Claimed Subject Matter

A. Independent Claim 1

The preamble recites a system for managing network components, including storage devices and digital data processors. The Specification discloses a SAN manager 20 to manage a SAN 10, that is connected to hosts 12 and storage devices 14 via a LAN 18. (Specification, pgs. 53-54, FIG. 1)

Below is an explanation of the claimed subject matter of claim 1 referring to the specification and drawings, where the claim requirements are underlined.

a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network

The Specification discloses one or more discover engine 40 responsible for gathering topology and attribute information for the SAN components. Each discover engine 40 receives and processes information gathered by one or more scanners, such as scanner 42, which are executables that interact with the hosts 12 by performing system calls and IOCTL calls to gather information. (Spec., pg. 90, FIG. 6) The Specification further discloses that if the engine 40 identifies differences affecting the topology of the SAN, it generates and forwards to the SAN manager 20 service module 38 notifications 15 reflecting those changes. (Spec., pg. 91, lines 11-21).

a second component in communication with the first component, the second component maintaining a second representation of the topology and responding to the event notification.

The Specification discloses that the SAN manager 20 receives an event notification reflecting the changes from the discover engine 40. The SAN manager 20 has a representation of the topology. (Spec, pg. 91, lines 11-21 and pg. 92, line 20 to pg. 93, line 11)

accessing the first representation The Specification discloses that the to update the topology representation maintained by the manager 20, the manager service 38 retrieves the identity of that storage device from the corresponding scan representation maintained by the discover engine. That information, once obtained, is used by the service 38 to update the topology representation. (Spec., pg. 94, line 20 to pg. 95, line 2)

determining a discrepancy between the event notification and an attribute of any of the first and second representations. The Specification discloses that the manager service 38 detects a logical conflict (e.g., between the event notification N1 indicating that the device has been added and the discover engine database indicating that no such device exists). (Spec., pg. 95, lines 6-8 and pgs. 96-100)

selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response to determining the discrepancy, wherein disregarding the event notification comprises taking no action to synchronize the first and second representations in response to the event notification. The Specification discloses that if the SAN manager database and discover engine are out of synch, the SAN manager may take no action or discard the event (Spec., pg.96-99 and pg. 100, lines 1-3) or retrieve the data from the discover engine database (Spec., pg. 98 – “perform database recovery actions” and pg. 100, lines 3-21).

B. Independent Claim 8

The preamble recites a system for managing a network of components, including storage devices and digital data processors. The Specification discloses a SAN manager 20 to manage a SAN 10, that is connected to hosts 12 and storage devices 14 via a LAN 18. (Specification, pgs. 53-54, FIG. 1)

Below is an explanation of the claimed subject matter of claim 8 referring to the specification and drawings, where the claim requirements are underlined:

a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network.

The Specification discloses one or more discover engine 40 responsible for gathering topology and attribute information for the SAN components. Each discover engine 40 receives and processes information gathered by one or more scanners, such as scanner 42, which are executables that interact with the hosts 12 by performing system calls and IOCTL calls to gather information. (Spec., pg. 90, FIG. 6) The Specification further discloses that if the engine 40 identifies differences affecting the topology of the

SAN, it generates and forwards to the SAN manager 20 service module 38 notifications 15 reflecting those changes. (Spec., pg. 91, lines 11-21).

a second component in communication with the first component and responding to the event notification: The Specification discloses that the SAN manager 20 receives an event notification reflecting the changes from the discover engine 40. The SAN manager 20 has a representation of the topology. (Spec, pg. 91, lines 11-21 and pg. 92, line 20 to pg. 93, line 11)

accessing the first representation The Specification discloses that the to update the topology representation maintained by the manager 20, the manager service 38 retrieves the identity of that storage device from the corresponding scan representation maintained by the discover engine. That information, once obtained, is used by the service 38 to update the topology representation. (Spec., pg. 94, line 20 to pg. 95, line 2)

disregarding the event notification in response to determining at least one of:

the event notification is indicative of addition of a new component to the network and an attribute of the first representation is indicative of absence of that component from the topology. The Specification discloses that if a new device event is received indicating the device is not in the discover engine database, then the new device event is discarded. (Spec., pg. 96, lines 1-8)

the event notification is indicative of addition of a relationship between components of the topology and an attribute of the first representation is indicative of absence of that relationship from the topology. The Specification discloses that if a new relationship event is received and the discover engine subsequent to transmitting a notification to the SAN manager service removed the object from its database prior to the SAN manager service processing the new relationship event, there should be a relationship missing event. In such case, the new relationship event is discarded. (Spec., pg. 96, lines 16-22)

the event notification is indicative of addition of a relationship between components of the topology and an attribute of a second representation is indicative of the absence from the topology of one of the

components to that relationship The Specification discloses that if a new relationship event is received and for scenario 3 the corresponding device is not listed in the SAN manager 20 service database, then no action is taken. (Spec., pg. 97, line 6 to pg. 98, line 4).

the event notification is indicative of a missing component of the topology and an attribute of the second representation indicative of the absence of that component from the topology The Specification discloses for a missing device event, if the device is not in the SAN manager 20 database, then the event is discarded. (Spec., pg. 98, lines 16-20)

the event notification is indicative of a missing component of the topology and an attribute of the second representation indicates representation of that component in the second representation, but the absence of that component from the topology The Specification discloses for a missing device event and scenario 2, if the device is in the SMS DB (which refers to the SAN manager service database also known as the SAN manager database), then the event is discarded. (Spec., pg. 98, line 23 to pg. 99, line 4)

the event notification is indicative of a missing relationship between components of the topology and an attribute of the second representation is indicative of an absence of that relationship in the second representation The Specification discloses that for a missing relationship event, if the relationship is not in the SAN manager service database, the event is discarded. (Spec., pg. 99, lines 5-10)

the event notification is indicative of a missing relationship in the topology and an attribute of the second representation indicates inclusion of that relationship in the second representation, but the absence of that component from the topology The Specification discloses that for a missing relationship event and if the relationship is in the SAN manager 20 service database, but its state is “missing”, then the event is discarded. (Spec., pg. 99, lines 11-16)

C. Independent Claim 9

The preamble recites a system for managing a network of components, including a storage devices and digital data processors. The Specification discloses a SAN manager 20 to manage a SAN 10, that is connected to hosts 12 and storage devices 14 via a LAN 18. (Specification, pgs. 53-54, FIG. 1)

Below is an explanation of the claimed subject matter of claim 9 referring to the specification and drawings, where the claim requirements are underlined:

a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network

The Specification discloses one or more discover engine 40 responsible for gathering topology and attribute information for the SAN components. Each discover engine 40 receives and processes information gathered by one or more scanners, such as scanner 42, which are executables that interact with the hosts 12 by performing system calls and IOCTL calls to gather information. (Spec., pg. 90, FIG. 6) The Specification further discloses that if the engine 40 identifies differences affecting the topology of the SAN, it generates and forwards to the SAN manager 20 service module 38 notifications 15 reflecting those changes. (Spec., pg. 91, lines 11-21).

a second component in communication with the first component, the second element maintaining a second representation of the topology and responding to the event notification

The Specification discloses that the SAN manager 20 receives an event notification reflecting the changes from the discover engine 40. The SAN manager 20 has a representation of the topology. (Spec, pg. 91, lines 11-21 and pg. 92, line 20 to pg. 93, line 11)

accessing the first representation: The Specification discloses that the to update the topology representation maintained by the manager 20, the manager service 38 retrieves the identity of that storage device from the corresponding scan representation maintained by the discover engine. That information, once obtained, is used by the service 38 to update the topology representation. (Spec., pg. 94, line 20 to pg. 95, line 2)

determining a discrepancy between the event notification and an attribute of any of the first and second representations. The Specification discloses that the manager service 38 detects a logical conflict (e.g., between the event notification N1 indicating that the device has been added and the discover engine database indicating that no such device exists). (Spec., pg. 95, lines 6-8 and pgs. 96-100)

selectively recovering the second representation from one or more attributes of the first representation in response to determining at least one of:

the event notification is indicative of addition of a new component to the topology and an attribute of the first representation is indicative of the presence of that component. The Specification discloses a notification indicate that a storage device has been added, and to update the representation maintained by the manager 20, the manager service 38 retrieve the identify of that storage device from the representation maintained by the disclosure engine. Thus, the discover engine has the presence of the added component. (Spec., pg. 94, line 18 to pg. 95, line 2).

the event notification is indicative of addition of a relationship between components of the topology and an attribute of the second representation is indicative of the presence of that relationship. The Specification discloses that for a new relationship event received, that if the new relationship is in the SAN manager 20 database, the state is changed to “suspect”. (Spec., pg. 96, lines 15-22)

the event notification is indicative of modification of an attribute of a component of the topology and an attribute of the second representation is indicative of the absence from the topology of that component. The Specification discloses a modified event attribute and that the device is not contained in the SAN manager 20 service database. (Spec., pg. 98, lines 5-9)

or the event notification is indicative of modification of an attribute of a component of the topology and an attribute of the second representation is indicative of inclusion of that component in the second representation but its absence from the topology. The Specification discloses a modified event attribute

and that the device is contained in the SAN manager 20 service database, but its state is “missing” from the topology. (Spec., pg. 98, lines 11-15)

D. Independent Claim 10

The preamble recites a method of managing a network of components, including storage devices and digital data processors. The Specification discloses a SAN manager 20 to manage a SAN 10, that is connected to hosts 12 and storage devices 14 via a LAN 18. (Specification, pgs. 53-54, FIG. 1)

Below is an explanation of the claimed subject matter of claim 10 referring to the specification and drawings, where the claim requirements are underlined.

maintaining a first representation of a topology of the storage devices and digital data processors in the network and generating an event notification indicative of a change to the topology with respect to the network The Specification discloses one or more discover engine 40 responsible for gathering topology and attribute information for the SAN components. Each discover engine 40 receives and processes information gathered by one or more scanners, such as scanner 42, which are executables that interact with the hosts 12 by performing system calls and IOCTL calls to gather information. (Spec., pg. 90, FIG. 6) The Specification further discloses that if the engine 40 identifies differences affecting the topology of the SAN, it generates and forwards to the SAN manager 20 service module 38 notifications 15 reflecting those changes. (Spec., pg. 91, lines 11-21).

maintaining a second representation of the topology and responding to the event notification The Specification discloses that the SAN manager 20 receives an event notification reflecting the changes from the discover engine 40. The SAN manager 20 has a representation of the topology. (Spec, pg. 91, lines 11-21 and pg. 92, line 20 to pg. 93, line 11)

accessing the first representation The Specification discloses that the to update the topology representation maintained by the manager 20, the manager service 38 retrieves the identity of that storage device from the corresponding scan representation maintained by the discover engine. That information, once obtained, is used by the service 38 to update the topology representation. (Spec., pg. 94, line 20 to pg. 95, line 2)

determining whether there is a discrepancy between the event notification and an attribute of any of the first and second representations. The Specification discloses that the manager service 38 detects a logical conflict (e.g., between the event notification N1 indicating that the device has been added and the discover engine database indicating that no such device exists). (Spec., pg. 95, lines 6-8 and pgs. 96-100)

selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response to determining the discrepancy, wherein disregarding the event notification comprises taking no action to synchronize the first and second representations in response to the event notification. The Specification discloses that if the SAN manager database and discover engine are out of synch, the SAN manager may take no action or discard the event (Spec., pg.96-99 and pg. 100, lines 1-3) or retrieve the data from the discover engine database (Spec., pg. 98 – “perform database recovery actions” and pg. 100, lines 3-21).

VI. Grounds of Rejection to Be Reviewed on Appeal

A concise statement listing each ground of rejection presented for review is as follows:

A. Claims 1-29 are rejected under (35 U.S.C. §103(a)) as obvious over Crockett (U.S. Patent No. 5,504,861) in view of Callon (U.S. Patent No. 6,999,459) and Dias (U.S. patent No. 5,805,785).

VII. Argument

A. Rejection Under 35 U.S.C. §103 Over Shavit in view of Sharp

1. Claims 1, 3, 4, 10, 14, 18

Claim 1 recites a system for managing a network components, including storage devices and digital data processors, comprising: a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network; a second component in communication with the first component, the second component maintaining a second representation of the topology and responding to the event notification by accessing the first representation; determining whether there is a discrepancy between the event notification and an attribute of any of the first and second representations; selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response to determining the discrepancy, wherein disregarding the event notification comprises taking no action to synchronize the first and second representations in response to the event notification.

The Examiner cited col. 2, lines 58-62 and col. 7, lines 34-44 of Crockett as teaching the requirements of these claims. (Advisory Action, July 2007 FOA, pg. 3) The cited col. 2 mentions that an object is to provide a design to shadow write updates at a primary site to a secondary site so that the writes to the secondary site are optimized with full recovery capabilities. The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) on the primary controller may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller.

Although the cited Crockett discusses maintaining data integrity between two sites where data is maintained, the cited Crockett nowhere teaches or suggests the specific claim requirements where the second component receives a notification, and in response the second component accesses the first representation, determines a discrepancy between an event notification indicative of a topology change, and then selectively disregards the event notification or recovers the second representation in

response to the discrepancy. Instead, the cited Crockett discusses how updates are transmitted asynchronously from a primary site to a secondary site.

Further, the cited col. 7 of Crockett discusses error recovery performed at the primary controller to synchronize for an error recovery. The I/O ERP 2 is on the primary controller, see, FIG. 1. This does not teach or suggest that the second component to be updated, which the Examiner likens to the secondary site, receives an event notification of a change and then performs the claimed operations of accessing the first representation, determining a discrepancy between an event notification indicative of a topology change, and then selectively disregarding the event notification or recover the second representation in response to the discrepancy.

Moreover, this rejection should be withdrawn because Crockett teaches away from the claimed technique for providing the topology changes to the second representation. Crockett mentions that the primary storage controllers each group their respective record updates for an asynchronous remote data shadowing session and provide those record updates to the PDM. Transferring record updates from the primary storage controllers is controlled by the PDM (Primary Data Mover). (Crockett, col. 10, lines 54-65). Thus, in Crockett the primary controller initiates the transferring of updates by providing the updates, whereas the claims require that the first component sends a notification to a second component that causes the second component to access the first representation at the first component, determine a discrepancy and disregard the notification or recover the second representation from attributes of the first representation in response to determining the discrepancy. Further, there is no teaching that disregarding the discrepancy comprises taking no action to synchronize the first and second representations in response to the event notification.

The Examiner further cited col. 7, lines 37-39 of Callon. (July 2007 FOA, pg. 3) Callon mentions that a notification is provided to switching nodes that a communication link has failed to allow the nodes to update their network topology database. (Callon, col. 7, lines 29-35)

The cited col. 7 mentions that a switching node notifies a network manager to determine the cause of a failure or notification. Nowhere does the cited Callon anywhere teach or suggest that in response to a notification of a change to the topology, that the

notified component performs the operations of accessing the first representation, determining a discrepancy between an event notification indicative of a topology change, and then selectively disregarding the event notification or recovering the second representation in response to the discrepancy. Instead, notifies a network manager to determine the course of action.

The Examiner further cited col. 2, lines 28-33 of Dias as teaching the requirements of the claim concerning filtering events to ensure that needless events are not acted on. (July 2007 FOA, pg. 3) Applicants submit that this cited col. 2 of Dias also fails to teach the above discussed shortcomings of the above references with respect the combination of claim requirements.

The cited col. 2 of Dias mentions that events detected by monitors are sent to event handlers. The event handlers process events by filtering them through such activities as event correlation, removal of duplicate events, and rollup. Filtered events are given by event handlers to recovery drivers, which have a rule base which specifies user defined recovery programs corresponding to the events.

The cited col. 2 mentions that event handlers process events. However, as with the other cited references, nowhere does the cited col. 2 anywhere teach or suggest that in response to a notification of a change to the topology, that the notified component performs the operations of accessing the first representation, determining a discrepancy between an event notification indicative of a topology change, and then selectively disregarding the event notification or recovering the second representation in response to the discrepancy. Instead, the cited col. 2 discusses filtering events in general. Nowhere does the cited col. 2, or any other cited reference, teach or suggest selectively disregarding an event notification or recovering the second representation in response to determining a discrepancy between a first and second representations of a topology.

Applicants further submit that combining the different teachings of the references as the Examiner proposes does not teach or suggest the claimed combination. The proposed combination of the cited references produces a system that shadows updates between a primary site and secondary site (Crockett) with providing a notification to the nodes that a communication link has failed to allow the nodes to update their network topology (Callon) and that uses event handlers to process events (Dias). This proposed

combination nowhere teaches or suggest that the first component sends a notification to a second component that causes the second component to access the first representation at the first component, determine a discrepancy and disregard the notification or recover the second representation from attributes of the first representation in response to determining the discrepancy. Further, there is no teaching in this proposed combination that disregarding the discrepancy comprises taking no action to synchronize the first and second representations in response to the event notification.

Accordingly, claim 1 is patentable over the cited art because the cited combination of Crockett, Callon, and Dias do not teach or suggest all the claim requirements.

Claim 10 includes the requirements of amended claim 1 in method format. The Examiner cited the same sections of Crockett with respect to claim 1 against claim 10, but did not cite Callon and Dias, as the Examiner did with claim 1. (July 2007 FOA, pgs. 10-11) Applicants submit that claim 10 is patentable over the cited art for the reasons discussed with respect to claim 1 because claim 10 includes the requirements of claim 1 in method form.

Claims 3, 4, 14 and 18 are patentable over the cited art because they depend from claim 10.

2. Claims 2, 5, and 6

Claim 2 depends from claim 1 and recites that the network further includes a plurality of hosts, each coupled with one or more storage devices over the network; one or more agents each associated with one or more of the hosts, each agent generating a scan identifying attributes of any of (i) the host with which it is associated, (ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween; and wherein the agents are in communication coupling with the first component, wherein the agents transmit the scan to the first component.

The Examiner cited the above discussed sections of col. 2, lines 58-62, col. 9, line 52 to col. 10, line 9; col. 10, line 54 to col. 11, line 37 of Crockett as teaching the requirements of claim 2. (July 2007 FOA, pg. 4) Applicants traverse.

The cited col. 2 mentions that writes at a primary site are shadowed at a secondary site with full recovery capabilities. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered and sent to the secondary site. Nowhere do these cited sections of Crockett anywhere teach or suggest the claim requirements of agents generating a scan of hosts and storage units to which the host is coupled and the relationship, and that the agents transmit the scans to the first component.

The Examiner further found that agents are inherent in the design. (Advisory Action) Applicants submit that whether or not agents are “inherent”, the Examiner has not cited any part of Crockett that teaches or suggests agents generating a scan identifying attributes of any of (i) the host with which it is associated, (ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween.

Accordingly, claim 2 provides additional grounds of patentability over the cited art because the cited Crockett fails to teach all the additional requirements of claim 2.

Claims 5 and 6 are patentable over the cited art because they depend from claim 2, which is patentable over the cited art for the reasons discussed above.

Further, claims 2, 5, and 6 are patentable over the cited art because they depend from base claim 1, which is patentable over the cited art for the reasons discussed above.

3. Claim 7 and 11

Claim 7 depends from claim 1 and further requires functionality that recovers the second representation by performing at least one of the following operations: i) clearing the second representation and rebuilding that representation from attributes of the first representation; ii) comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and iii) copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a

component or relationship in a region represented by an attribute in connection with which the discrepancy occurred.

The Examiner cited the above discussed sections of Crockett as disclosing the additional requirements of claim 7. (July 2007 FOA, pgs. 6-7) Applicants traverse.

As discussed, the above cited Crockett discusses how to mirror updates to a primary site to a secondary site. In the Advisory Action the Examiner again argues that hosts updating against one another to provide full recovery capabilities teaches the claim requirements. However, the Examiner has not cited any part of Crockett that teaches or suggests the specific claimed functionality that recovers the second representation by performing at least one of the following operations: i) clearing the second representation and rebuilding that representation from attributes of the first representation; ii) comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and iii) copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a component or relationship in a region a component or relationships represented by an attribute in connection with which the discrepancy occurred.

In the cited sections of Crockett there is no mention or disclosure of the above discussed functionality to handle a discrepancy between an event notification concerning a change to a network topology and the first or second representations of that topology as claimed.

Accordingly, claim 7 provides additional grounds of patentability over the cited art because the cited Crockett fails to teach all the additional requirements of claim 7.

Claim 11 substantially includes the requirements of claim 7 in method form. Accordingly, claim 11 is patentable over the cited art for the reasons discussed with respect to claim 7.

Further, claims 7 and 11 are patentable over the cited art because they depend from base claims 1 and 10, respectively, which are patentable over the cited art for the reasons discussed above.

4. Independent Claim 8

Claim 8 is patentable over the cited Crockett for the reasons discussed with respect to claim 1, because claim 8 includes many of the limitations of claim 1 that distinguish over the cited Crockett, including a second component responding to an event notification by accessing a first representation and disregarding the event notification. Further, claim 8 provides additional grounds of patentability over the cited art by including specific requirements concerning when the event notification is disregarded which is not taught or suggested in the cited Crockett, Callon or Dias. The cited art does not teach or suggest any one of the specific seven occurrences that result in disregarding an event notification on a topology change. Instead, the cited Crockett discusses copying updates to a secondary storage (DASD) to maintain a write order and the cited Dias discusses filtering events detected by monitors.

For instance, the Examiner has not cited any part of Crockett or the other references that teach or suggest disregarding an event notification concerning a change to a network topology. The cited Crockett nowhere mentions or teaches that the secondary controller disregard an event notification concerning a change in a network topology.

Applicants submit that this rejection is improper and should be overturned because the Examiner has not specifically cited to where Crockett, Callon and/or Dias teach or suggest the specific requirements that the notification is disregarded if one of the following occur:

- the event notification is indicative of addition of a new component to the network and an attribute of the first representation is indicative of absence of that component from the topology;

- the event notification is indicative of addition of a relationship between components of the topology and an attribute of the first representation is indicative of absence of that relationship from the topology;

the event notification is indicative of addition of a relationship between components of the topology and an attribute of the second representation is indicative of the absence from the topology of one of the components to that relationship;

the event notification is indicative of a missing component of the topology and an attribute of the second representation indicative of the absence of that component from the topology;

the event notification is indicative of a missing component of the topology and an attribute of the second representation indicates representation of that component in the second representation, but the absence of that component from the topology;

the event notification is indicative of a missing relationship between components of the topology and an attribute of the second representation is indicative of an absence of that relationship in the second representation; or

the event notification is indicative of a missing relationship in the topology and an attribute of the second representation indicates inclusion of that relationship in the second representation, but the absence of that component from the topology.

Accordingly, claim 8 is patentable over the cited art because the Examiner has not cited art teaching or suggestion the requirements of claim 8.

5. Claim 9

The Examiner cited the same sections of Crockett cited with respect to claim 8 against claim 9. (July 2007 FOA, pgs. 9-10) Applicants traverse.

Claim 9 is patentable over the cited Crockett (and other cited references) for the reasons discussed with respect to claim 1, because claim 9 includes many of the limitations of claim 1 that distinguish over the cited art, including accessing the first representation; determining a discrepancy between the event notification and an attribute of any of the first and second representations; and selectively recovering the second representation from one or more attributes of the first representation. Further, claim 9

provides additional requirements concerning determining the discrepancy and selectively recovering the second representations in response to any of the listed four occurrences.

Applicants submit that the Examiner has not cited any part of Crockett, Callon, and Dias, alone or in combination, that teach or suggest any one of the specific claimed occurrences that result in selectively recovering the second representation from one or more attributes of the first representation in response to determining at least one of:

the event notification is indicative of addition of a new component to the topology and an attribute of the first representation is indicative of the presence of that component;

the event notification is indicative of addition of a relationship between components of the topology and an attribute of the second representation is indicative of the presence of that relationship;

the event notification is indicative of modification of an attribute of a component of the topology and an attribute of the second representation is indicative of the absence from the topology of that component; or

the event notification is indicative of modification of an attribute of a component of the topology and an attribute of the second representation is indicative of inclusion of that component in the second representation but its absence from the topology.

6. Claim 12

Claim 12 depends from claim 10 and further recites that determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of addition of a new component to the topology and an attribute of the first representation indicative of absence of the new component.

The Examiner cited col. 9, line 52 to col. 10, line 9; col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 12. (July 2007 FOA, pg. 11).

The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the

primary controllers and sent to the secondary site. Nowhere do these cited sections of Crockett anywhere teach or suggest determining the discrepancy that results in selectively disregarding the event notification by determining an event notification indicative of addition of a new component to the topology and an attribute of the first representation indicative of absence of the new component. For instance, nowhere does the cited Crockett teach or suggest that the primary controller provide an event notification indicating a change to a topology of adding a component when a representation of the topology maintained by the primary controller indicates an absence of the component. Not only does the cited Crockett have no mention of a topology, but there is no mention of the claimed event notification.

Accordingly, claim 12 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 12. Further, claims 12 is patentable over the cited art because it depends from base claim 10, which is patentable over the cited art for the reasons discussed above.

7. Claim 13

Claim 13 depends from claim 10 and further recites determining an event notification indicative of addition of a new component to the topology and an attribute of the first representation indicative of absence of the new component; determining whether the new component is in the second representation in response to determining that the new component is absent from the first representation; and updating the second representation to indicate that component's status is suspect in response to determining that the new component is in the second representation.

The Examiner cited col. 2, lines 58-62, col. 7, lines 34-44, col. 9, line 52 to col. 10, line 9, and col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 13. (July 2007 FOA, pgs. 11-12).

The cited col. 2 mentions that an object is to provide a design to shadow write updates at a primary site to a secondary site so that the writes to the secondary site are optimized with full recovery capabilities. The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) on the primary controller may perform

peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the primary controllers and sent to the secondary site.

Nowhere do these cited sections of Crockett anywhere teach or suggest determining an event notification indicative of the addition of a new component to the topology and an attribute of the first representation indicative of absence of the new component; determining whether the new component is in the second representation in response to determining that the new component is absent from the first representation; and updating the second representation to indicate that component's status is suspect in response to determining that the new component is in the second representation.

For instance, nowhere does the cited Crockett teach or suggest that the primary controller provide an event notification indicating addition of a new component to the topology when the first representation of the topology maintained by the primary controller indicates an absence of the component, and then a determination is made as to whether the new component is in the second representation at the secondary site when the new component is in the first representation of the topology at the primary controller. Not only does the cited Crockett have no mention of a topology, but there is no mention of the claimed event notification and determinations of whether the new component is indicated in representations of the topology at the primary and secondary controllers of Crockett.

Accordingly, claim 13 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 13.

Further, claims 13 is patentable over the cited art because it depends from base claim 10, which is patentable over the cited art for the reasons discussed above.

8. Claim 15

Claim 15 depends from claim 10 and further recites that determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of addition of a relationship between

components of the topology and an attribute of the first representation indicative of absence of that relationship.

The Examiner cited col. 7, lines 34-44, col. 9, line 52 to col. 10, line 9, and col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 13. (July 2007 FOA, pg. 13).

The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) on the primary controller may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the primary controllers and sent to the secondary site.

Nowhere do these cited sections of Crockett anywhere teach or suggest disregarding a notification when the event notification is indicative of addition of a relationship between components of the topology and an attribute of the first representation indicative of absence of that relationship. For instance, nowhere does the cited Crockett teach or suggest that the primary controller provide an event notification indicating addition of a new relationship of components in the topology when the first representation of the topology maintained by the primary controller indicates an absence of the relationship. Not only does the cited Crockett have no mention of a topology, but there is no mention of the claimed event notification and determinations of whether the new component is indicated in a representation of the topology at the primary controller of Crockett.

Accordingly, claim 15 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 15.

Further, claims 15 is patentable over the cited art because it depends from base claim 10, which is patentable over the cited art for the reasons discussed above.

9. Claim 16

Claim 16 depends from claim 10 and further recites determining the discrepancy that results in performing the recovery operation on the second representations comprises determining an event notification indicative of addition of a relationship between components of the topology and an attribute of the second representation indicative of the presence of that relationship.

The Examiner cited col. 9, line 52 to col. 10, line 9, and col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 13. (July 2007 FOA, pgs. 13-14).

The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the primary controllers and sent to the secondary site.

Nowhere do these cited sections of Crockett anywhere teach or suggest the discrepancy that results in performing the recovery operation on the second representations comprises determining an event notification indicative of addition of a relationship between components of the topology and an attribute of the second representation indicative of the presence of that relationship.

For instance, nowhere does the cited Crockett teach or suggest that the primary controller provide an event notification indicating addition of a new relationship between components in the topology when the second representation of the topology maintained by the secondary controller indicates a presence of that relationship. Not only does the cited Crockett have no mention of a topology, but there is no mention of the claimed event notification and determinations of whether the new component is indicated in a representation of the topology at the secondary controller of Crockett.

Accordingly, claim 16 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 16.

Further, claims 16 is patentable over the cited art because it depends from base claim 10, which is patentable over the cited art for the reasons discussed above.

10. Claim 17

Claim 17 depends from claim 10 and further recites that determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of addition of a relationship between components of the topology and an attribute of the second representation indicative of the absence from the topology of one of the components to that relationship.

The Examiner cited col. 7, lines 34-44, col. 9, line 52 to col. 10, line 9, and col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 13. (July 2007 FOA, pg. 14).

The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) on the primary controller may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the primary controllers and sent to the secondary site.

Nowhere do these cited sections of Crockett anywhere teach or suggest disregarding a notification when the event notification is indicative of addition of a relationship between components of the topology and an attribute of the second representation indicative of the absence from the topology of one of the components to that relationship.

For instance, nowhere does the cited Crockett teach or suggest that the secondary controller disregard an event notification from the primary controller indicating of a new relationship in the topology when the event notification indicates the addition of the new relationship and the second representation of the topology at the secondary controller does not indicate the relationship. Not only does the cited Crockett have no mention of a topology, but there is no mention of disregarding an event notification as claimed.

Accordingly, claim 17 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 15.

Further, claims 17 is patentable over the cited art because it depends from base claim 10, which is patentable over the cited art for the reasons discussed above.

11. Claim 19

Claim 19 depends from claim 10 and further recites that determining the discrepancy that results in performing the recovery operation on the second representations comprises determining an event notification indicative of modification of an attribute of a component of the topology and an attribute of the second representation indicating presence of representation of that component in the second representation but its absence from the topology.

The Examiner cited col. 7, lines 34-44, col. 9, line 52 to col. 10, line 9, and col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 13. (July 2007 FOA, pg. 15).

The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) on the primary controller may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the primary controllers and sent to the secondary site.

Nowhere do these cited sections of Crockett anywhere teach or suggest performing a recovery when an event notification indicates a modification of a component of the topology that is indicated in the second representation but is indicated as absent from the topology.

For instance, nowhere does the cited Crockett teach or suggest that the secondary controller perform a recovery on a second representation of a topology at the secondary controller for an event notification that indicates a modification of an attribute, where the second representation at the secondary controller indicates a presence of the component but its absence from the topology. Not only does the cited Crockett have no mention of a topology, but there is no mention of performing a recovery as claimed.

Accordingly, claim 19 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 15.

Further, claims 19 is patentable over the cited art because it depends from base claim 10, which is patentable over the cited art for the reasons discussed above.

12. Claims 20-23

Claim 20 depends from claim 10 and further recites that determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of a missing component of the topology and an attribute of the second representation indicative of the absence of that component from the topology.

The Examiner cited col. 7, lines 34-44, col. 9, line 52 to col. 10, line 9, and col. 10, line 54 to col. 11, line 37 of Crockett as teaching the additional requirements of claim 13. (July 2007 FOA, pgs. 15-16).

The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) on the primary controller may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered at the primary controllers and sent to the secondary site.

Nowhere do these cited sections of Crockett anywhere teach or suggest disregarding an event notification when the notification indicates a missing component of the topology.

For instance, nowhere does the cited Crockett teach or suggest that the secondary controller disregard an event notification indicating a missing component of the topology. Not only does the cited Crockett have no mention of a topology, but there is no mention of performing a recovery as claimed.

Accordingly, claim 20 provides additional grounds of patentability over the cited art because the cited art fails to teach to suggest all the additional requirements of claim 15.

Claims 21, 22 and 23 also recite selectively disregarding an event notification indicative of a missing component or relationship. Applicants submit that these claims are patentable over the cited art for the reasons discussed with respect to claim 20.

Further, claims 20-23 are patentable over the cited art because they depend from base claim 10, which is patentable over the cited art for the reasons discussed above.

13. Claims 24 and 25

Claims 24 and 25 depend from claims 1 and 10, respectively, and further require that the recovering of the second representation is performed in response to the determined discrepancy comprising the first representation not reflecting the change indicated by the event notification and the second representation reflecting the change indicated by the event notification.

The Examiner cited claims 5, 7, and 8 of Dias as teaching the additional requirements of these claims. (July 2007 FOA, pgs. 17-18) Applicants traverse.

The cited claim 5 mentions that failure events are reported to an event manager and that the event manager reports only selected ones of the events based on a filtering criteria. The cited claim 7 mentions monitoring nodes of a distributed system and subsystems, reporting detected events, filtering the events, and applying rules to filtered events to select a user defined recovery program. The cited claim 8 mentions that the filtering includes at least one of event correlation, removal of duplicate events, and rollover.

Although the cited claims of Dias mention filtering events and performing a recovery action based upon certain rules being applied to the events, nowhere do the cited claims of Dias anywhere teach or suggest the specific claim requirements of recovering the second representation in response to the determined discrepancy comprising the first representation not reflecting the change indicated by the event notification and the second representation reflecting the change indicated by the event notification.

Accordingly, claims 24 and 25 are patentable over the cited art because the requirements of these claims are not taught or suggested in the cited Dias or other cited art.

Further, claim 24 and 25 are patentable over the cited art because they depend from base claims 1 and 10, which are patentable over the cited art for the reasons discussed above.

14. Claims 26 and 27

Claims 26 and 27 depend from claims 1 and 10, respectively, and further require that the event notification is disregarded in response to the determined discrepancy comprising the first representation and second representation not reflecting the change indicated by the event notification.

The Examiner discussed the above discussed claims 5, 7, and 8 of Dias as teaching the additional requirements of these claims. (July 2007 FOA, pg. 18) Although the cited claims of Dias mention filtering events and performing a recovery action based upon certain rules being applied to the events, nowhere do the cited claims of Dias anywhere teach or suggest the specific claim requirements that the event notification is disregarded in response to the determined discrepancy comprising the first representation and second representation not reflecting the change indicated by the event notification. Nowhere is there any teaching of the claim requirement of disregarding a notification if the first representation and second representation do not reflect the change indicated by the event notification.

Accordingly, claims 26 and 27 are patentable over the cited art because the requirements of these claims are not taught or suggested in the cited Dias or other cited art.

Further, claim 26 and 27 are patentable over the cited art because they depend from base claims 1 and 10, which are patentable over the cited art for the reasons discussed above.

15. Claims 28 and 29

Claims 28 and 29 depend from claims 1 and 10, respectively, and further require that the event notification indicates that a device was added to the first representation, wherein the recovering of the second representation is performed in response to the determined discrepancy comprising the first representation not reflecting the added device and the second representation reflecting the added device, and wherein the event notification is disregarded in response to the determined discrepancy comprising the first representation and the second representation not reflecting the added device.

The Examiner discussed the above discussed claims 5, 7, and 8 of Dias as teaching the additional requirements of these claims. (July 2007 FOA, pg. 18) Although the cited claims of Dias mentions filtering events and performing a recovery action based upon certain rules being applied to the events, nowhere do the cited claims of Dias anywhere teach or suggest the specific claim requirements of recovering the second representation if the first representation does not reflect the added device and the second representation reflects the added device, and disregarding the event notification if the first representation and the second representation do not reflect the added device.

Accordingly, claims 28 and 29 are patentable over the cited art because the requirements of these claims are not taught or suggested in the cited Dias or other cited art.

Further, claim 28 and 29 are patentable over the cited art because they depend from base claims 1 and 10, which are patentable over the cited art for the reasons discussed above.

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B. Conclusion

Each of the rejections set forth in the Final Office Action is improper and should be reversed.

Respectfully submitted,

/David Victor/

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VIII. Claims Appendix

1. (Previously Presented) A system for managing network components, including storage devices and digital data processors, comprising:

a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network;

a second component in communication with the first component, the second component maintaining a second representation of the topology and responding to the event notification by

accessing the first representation;

determining a discrepancy between the event notification and an attribute of any of the first and second representations;

selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response to determining the discrepancy, wherein disregarding the event notification comprises taking no action to synchronize the first and second representations in response to the event notification.

2. (Previously Presented) The system of claim 1, wherein the network further includes a plurality of hosts, each coupled with one or more storage devices over the network;

one or more agents each associated with one or more of the hosts, each agent generating a scan identifying attributes of any of (i) the host with which it is associated,

(ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween; and wherein the agents are in communication coupling with the first component, wherein the agents transmit the scan to the first component.

3. (Previously Presented) The system of claim 2, wherein the agents transmit the scans to the first component asynchronously with respect to one another.

4. (Previously Presented) The system of claim 1, wherein the first representation comprises scans received from one or more agents.

5. (Previously Presented) The system of claim 2, wherein the hosts comprise digital data processors and the agents execute on the host digital data processors.

6. (Previously Presented) The system of claim 5, wherein the network comprises a first network, further comprising a manager digital data processor that is coupled to the host digital data processors via a second network, wherein the first and second components execute in connection with the manager digital data processor.

7. (Previously Presented) The system of claim 1, further comprising functionality that recovers the second representation by performing at least one of the following operations:

clearing the second representation and rebuilding that representation from attributes of the first representation;

comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and

copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a component or relationship in a region represented by an attribute in connection with which the discrepancy occurred.

8. (Previously Presented) A system for managing a network of components, including storage devices and digital data processors, comprising:

a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network;

a second component in communication with the first component and responding to the event notification by:

accessing the first representation;

disregarding the event notification in response to determining at least one

of:

the event notification is indicative of addition of a new component to the network and an attribute of the first representation is indicative of absence of that component from the topology;

the event notification is indicative of addition of a relationship between components of the topology and an attribute of the first representation is indicative of absence of that relationship from the topology;

the event notification is indicative of addition of a relationship between components of the topology and an attribute of a second representation is indicative of the absence from the topology of one of the components to that relationship;

the event notification is indicative of a missing component of the topology and an attribute of the second representation indicative of the absence of that component from the topology;

the event notification is indicative of a missing component of the topology and an attribute of the second representation indicates representation of that component in the second representation, but the absence of that component from the topology;

the event notification is indicative of a missing relationship between components of the topology and an attribute of the second representation is indicative of an absence of that relationship in the second representation; or

the event notification is indicative of a missing relationship in the topology and an attribute of the second representation indicates inclusion of that relationship in the second representation, but the absence of that component from the topology.

9. (Previously Presented) A system for managing a network of components, including storage devices and digital data processors, comprising:

a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network;

a second component in communication with the first component, the second element maintaining a second representation of the topology and responding to the event notification by

accessing the first representation;

determining a discrepancy between the event notification and an attribute of any of the first and second representations; and

selectively recovering the second representation from one or more attributes of the first representation in response to determining at least one of:

the event notification is indicative of addition of a new component to the topology and an attribute of the first representation is indicative of the presence of that component;

the event notification is indicative of addition of a relationship between components of the topology and an attribute of the second representation is indicative of the presence of that relationship;

the event notification is indicative of modification of an attribute of a component of the topology and an attribute of the second representation is indicative of the absence from the topology of that component; or

the event notification is indicative of modification of an attribute of a component of the topology and an attribute of the second representation is indicative of inclusion of that component in the second representation but its absence from the topology.

10. (Previously Presented) A method of managing a network of components, including storage devices and digital data processors, comprising:

maintaining a first representation of a topology of the storage devices and digital data processors in the network and generating an event notification indicative of a change to the topology with respect to the network;

maintaining a second representation of the topology and responding to the event notification by:

accessing the first representation;

determining whether there is a discrepancy between the event notification and an attribute of any of the first and second representations; and

selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response

to determining the discrepancy, wherein disregarding the event notification comprises taking no action to synchronize the first and second representations in response to the event notification.

11. (Previously Presented) The method of claim 10, wherein the recovering operations include at least one of the operations comprising:

clearing the second representation and rebuilding that representation from attributes of the first representation;

comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and

copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a component or relationship in a region represented by an attribute in connection with which the discrepancy occurred.

12. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of addition of a new component to the

topology and an attribute of the first representation indicative of absence of the new component.

13. (Previously Presented) The method of claim 10, further comprising:
determining an event notification indicative of addition of a new component to the topology and an attribute of the first representation indicative of absence of the new component; and
determining whether the new component is in the second representation in response to determining that the new component is absent from the first representation; and;
updating the second representation to indicate that component's status is suspect in response to determining that the new component is in the second representation.

14. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in performing the recovery operation on the second representations comprises determining an event notification indicative of addition of a new component to the topology and an attribute of the first representation indicative of the presence of the new component.

15. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of addition of a relationship between

components of the topology and an attribute of the first representation indicative of absence of that relationship.

16. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in performing the recovery operation on the second representations comprises determining an event notification indicative of addition of a relationship between components of the topology and an attribute of the second representation indicative of the presence of that relationship.

17. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of addition of a relationship between components of the topology and an attribute of the second representation indicative of the absence from the topology of one of the components to that relationship.

18. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in performing the recovery operation on the second representations comprises determining an event notification indicative of modification of an attribute of a component of the topology and an attribute of the second representation indicative of the absence from the topology of that component.

19. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in performing the recovery operation on the second

representations comprises determining an event notification indicative of modification of an attribute of a component of the topology and an attribute of the second representation indicating presence of representation of that component in the second representation but its absence from the topology.

20. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of a missing component of the topology and an attribute of the second representation indicative of the absence of that component from the topology.

21. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of a missing component of the topology and an attribute of the second representation indicates inclusion of that component in the second representation, but the absence of that component from the topology.

22. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of a missing relationship between components of the topology and an attribute of the second representation indicative of absence of that relationship in the second representation.

23. (Previously Presented) The method of claim 10, wherein determining the discrepancy that results in selectively disregarding the event notification comprises determining an event notification indicative of a missing relationship in the topology and an attribute of the second representation indicates inclusion of that relationship in the second representation, but the absence of that component from the topology.

24. (Previously Presented) The system of claim 1, wherein the recovering of the second representation is performed in response to the determined discrepancy comprising the first representation not reflecting the change indicated by the event notification and the second representation reflecting the change indicated by the event notification.

25. (Previously Presented) The method of claim 10, wherein the recovering of the second representation is performed in response to the determined discrepancy comprising the first representation not reflecting the change indicated by the event notification and the second representation reflecting the change indicated by the event notification.

26. (Previously Presented) The system of claim 1, wherein the event notification is disregarded in response to the determined discrepancy comprising the first representation and second representation not reflecting the change indicated by the event notification.

27. (Previously Presented) The method of claim 10, wherein the event notification is disregarded in response to the determined discrepancy comprising the first representation and second representation not reflecting the change indicated by the event notification.

28. (Previously Presented) The system of claim 1, wherein the event notification indicates that a device was added to the first representation, wherein the recovering of the second representation is performed in response to the determined discrepancy comprising the first representation not reflecting the added device and the second representation reflecting the added device, and wherein the event notification is disregarded in response to the determined discrepancy comprising the first representation and the second representation not reflecting the added device.

29. (Previously Presented) The method of claim 10, wherein the event notification indicates that a device was added to the first representation, wherein the recovering of the second representation is performed in response to the determined discrepancy comprising the first representation not reflecting the added device and the second representation reflecting the added device, and wherein the event notification is disregarded in response to the determined discrepancy comprising the first representation and the second representation not reflecting the added device.

IX. Evidence Appendix

None

- X. Related Proceedings Appendix
None